

Title (en)

HIGH PHOTOELECTRIC CONVERSION EFFICIENCY SOLAR-CELL AND MANUFACTURING METHOD FOR HIGH PHOTOELECTRIC CONVERSION EFFICIENCY SOLAR-CELL

Title (de)

SOLARZELLE MIT HOHER PHOTOELEKTRISCHER UMWANDLUNGSEFFIZIENZ UND HERSTELLUNGSVERFAHREN FÜR EINE SOLARZELLE MIT HOHER PHOTOELEKTRISCHER UMWANDLUNGSEFFIZIENZ

Title (fr)

CELLULE SOLAIRE À EFFICACITÉ DE CONVERSION PHOTOÉLECTRIQUE ÉLEVÉE ET PROCÉDÉ DE FABRICATION D'UNE CELLULE SOLAIRE À EFFICACITÉ DE CONVERSION PHOTOÉLECTRIQUE ÉLEVÉE

Publication

EP 3340317 A4 20190109 (EN)

Application

EP 16897478 A 20161025

Priority

JP 2016004689 W 20161025

Abstract (en)

[origin: EP3340317A1] The present invention is a method for manufacturing a solar cell, including the steps of: forming unevenness on both of main surfaces of a semiconductor substrate of a first conductivity type; forming an emitter layer on a first main surface of the semiconductor substrate; forming a diffusion mask on the emitter layer; removing the diffusion mask in a pattern; forming a base layer on the portion where the diffusion mask have been removed; removing the remaining diffusion mask; forming a dielectric film on the first main surface; forming a base electrode on the base layer; and forming an emitter electrode on the emitter layer. This provides a method for manufacturing a solar cell that can bring high photoelectric conversion efficiency while decreasing the number of steps.

IPC 8 full level

H01L 31/068 (2012.01)

CPC (source: CN EP KR US)

H01L 31/02167 (2013.01 - CN US); **H01L 31/022425** (2013.01 - US); **H01L 31/022441** (2013.01 - CN EP US); **H01L 31/022458** (2013.01 - KR); **H01L 31/0236** (2013.01 - CN); **H01L 31/02363** (2013.01 - CN EP KR US); **H01L 31/0516** (2013.01 - KR); **H01L 31/068** (2013.01 - US); **H01L 31/0682** (2013.01 - EP KR US); **H01L 31/18** (2013.01 - CN KR); **Y02E 10/50** (2013.01 - US); **Y02E 10/547** (2013.01 - EP KR); **Y02P 70/50** (2015.11 - US)

Citation (search report)

- [X] JP 2014086590 A 20140512 - SHARP KK
- [XA] US 2013214271 A1 20130822 - ASAMI YOSHINOBU [JP], et al
- [X] US 2013247971 A1 20130926 - HAAS MARY KATHRYN [US], et al
- See also references of WO 2018078666A1

Cited by

CN108649078A; CN108666379A; US10700223B2; EP3355361B1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 3340317 A1 20180627; **EP 3340317 A4 20190109**; **EP 3340317 B1 20200401**; CN 109906515 A 20190618; CN 117352591 A 20240105; JP 6246982 B1 20171213; JP WO2018078666 A1 20181025; KR 102646477 B1 20240311; KR 20190073372 A 20190626; TW 201826559 A 20180716; TW 201935705 A 20190901; TW I649894 B 20190201; TW I695518 B 20200601; US 2019305149 A1 20191003; US 2023420581 A1 20231228; WO 2018078666 A1 20180503

DOCDB simple family (application)

EP 16897478 A 20161025; CN 201680090416 A 20161025; CN 202311395462 A 20161025; JP 2016004689 W 20161025; JP 2017519701 A 20161025; KR 20197010942 A 20161025; TW 106108572 A 20170315; TW 107147314 A 20170315; US 201615753152 A 20161025; US 202318219450 A 20230707